

Work Order ID 153628

Wednesday, November 23, 2016 9:15:14 AM

153628

Page 1

Item ID: PB67-43001-15

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Fwd Adjustable Blade Support Assembly

Start Date: 11/23/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 12/23/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: umf Date: 16-11-23

Tooling:

Date:

Run Start ***NR1***

QC: Date: SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
B67-43001-15	D								

100

Weld per dwg A/R Aluminum rod Batch: M134452***100***

Large Fab

Memo

0.20

Large Fab

1- Make a 0.090" chamfer in the 1.00" hole before welding

2- Grind weld flush in area of PB67-43001-249 only

16-12-01

102

0.00

102

Mill Conv

Memo

0.05

Conventional Milling Machine

DRILL AND TAP FOR 1/2"-20 HELICAL INSERT

INSTALL HELICAL INSERT

1 0 16-12-07
DAS
32
9-89

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval 	
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause				FAULT CATEGORY			
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐
Past Expiry Date ☐	☐	Manufacturing Process	☐	OTHER :			
Misidentified ☐	☐	Past Due	☐				

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
104 *104* Large Fab Large Fab	Weld per dwg A/R Aluminum rod Batch: _____ Memo ASSEMBLE AND WELD AS PER DWG	0.00 0.17							
105 *105* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00							
110 *110* QC Quality Control	QC9- Inspect visual per QSI004- Fusion Welds Memo	0.00 0.00							

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By	
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Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

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Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

Green Sandtex(Ref:4.3.5.8) per QSI005 4.3

0.00

160

Powdercoat

M134092

Memo

0.01

Powder Coating

1- MASK TUBE FROM BASE TO GUSSET

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

8:55
500°
*9:25**1* *φ* *16-12-16* *333*

170

QC3- Inspect Part Finish

0.00

170

QC

Memo

0.00

Quality Control

1 *DEC 20 2016* *CPC*

180

Small Fab

0.00

180

Small Fab

Memo

0.03

Small Fab

1- match drill cover to existing holes in support
2- assemble as per dwg*1* *CPC* *DG* *2016/12/20*

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Start Date: 11/23/2016 Start Qty: 1.00 ***1***

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Required Date: 12/23/2016 Req'd Qty: 1.00 ***1***

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Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	QC5- Inspect part completeness to step on W/O	0.00							
190									
QC	Memo	0.00							DAS 9 9-89
Quality Control									
200	Identify as per dwg & Stock Location: <u>ME222</u>	0.00							
200									
Packaging	Memo	0.00							1 JAN 05 2017 GPC
Packaging									
210	QC21- Final Inspection - Work Order Release	0.00							
210									
QC	Memo	0.02							DAS 21 9-89 JAN 06 2017
Quality Control									

DAS
21
9-89

JAN 05 2017

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



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Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : _____					

Picklist Print

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Page 1

Work Order ID: 153628

153628

Parent Item: PB67-43001-15

PB67-43001-15

Parent Item Name: Fwd Adjustable Blade Support Assembly

Start Date: 11/23/2016

Required Date: 12/23/2016

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A 08-06-26 new issue DD verified by:ec
10.09.28 per rev C dwg EC verified by:DD

IPP Rev B

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

MS124780		Purchased	No				Each	16.0000		1			
----------	--	-----------	----	--	--	--	------	---------	--	---	--	--	--

MS124780

HELICAL INSERT

★★

Location

Loc Qty

Loc Code

ST316

16

111064

16

MS27039-1-10		Purchased	No				Each	459.0000		8			
--------------	--	-----------	----	--	--	--	------	----------	--	---	--	--	--

MS27039-1-10

SCREW

★★

Location

Loc Qty

Loc Code

GA

17

m129541

17

over006

300

m135774

300

ST280

142

m135603

142

NAS1149D0316J		Purchased	No				Each	1,185.000		8			
---------------	--	-----------	----	--	--	--	------	-----------	--	---	--	--	--

NAS1149D0316J

Washer

★★

Location

Loc Qty

Loc Code

ST264

1185

M134502

1185

CMF 16-11-28

CMF 16-11-28

CMF 16-11-28

DQA: _____ Date: _____

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Page 2

Work Order ID: 153628

153628

Parent Item: PB67-43001-15

PR67-43001-15

Parent Item Name: Fwd Adjustable Blade Support Assembly

Start Date: 11/23/2016

Required Date: 12/23/2016

Start Qty: 1.00

Required Qty: 1.00

NAS1149D0363J

Purchased

No

Each

1,002.000

8

NAS1149D0363.J

Washer

Location

Loc Qty

Loc Code

GA

364

m134055

364

ST263

638

m135864

638

Each

5.0000

1

PB67-43001-249

Manufactured

No

PR67-43001-249

Inner Tube Bushing

Location

Loc Qty

Loc Code

WA003

5

133726

5

Each

4.0000

1

PB67-43001-253

Manufactured

No

PR67-43001-253

Gusset

Location

Loc Qty

Loc Code

Mezz2

4

139182

3

152146

1

Each

4.0000

1

PB67-43001-254

Manufactured

No

PR67-43001-254

Gusset

Location

Loc Qty

Loc Code

Mezz2

4

152077

4

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
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Parent Item Name: Fwd Adjustable Blade Support Assembly

Start Date: 11/23/2016

Required Date: 12/23/2016

Start Qty: 1.00

Required Qty: 1.00

PB67-43001-257

Manufactured No

Each

2.0000

1

PR67-43001-257

Inner Tube

Location

Loc Qty

Loc Code

Mezz2

2

99970

2

Each

1.0000

1

PB67-43001-71

Manufactured No

PR67-43001-71

20° Blade Support Assembly

Location

Loc Qty

Loc Code

Mezz2

1

139109

1

Each

4.0000

1

PB67-43001-73

Manufactured No

PR67-43001-73

20 Degree Cover Plate

Location

Loc Qty

Loc Code

Mezz2

4

138692

4

Each

12.0000

1

PB67-43001-83

Manufactured No

PR67-43001-83

D-Pad Assembly, Short

Location

Loc Qty

Loc Code

Mezz2

12

138687

12

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

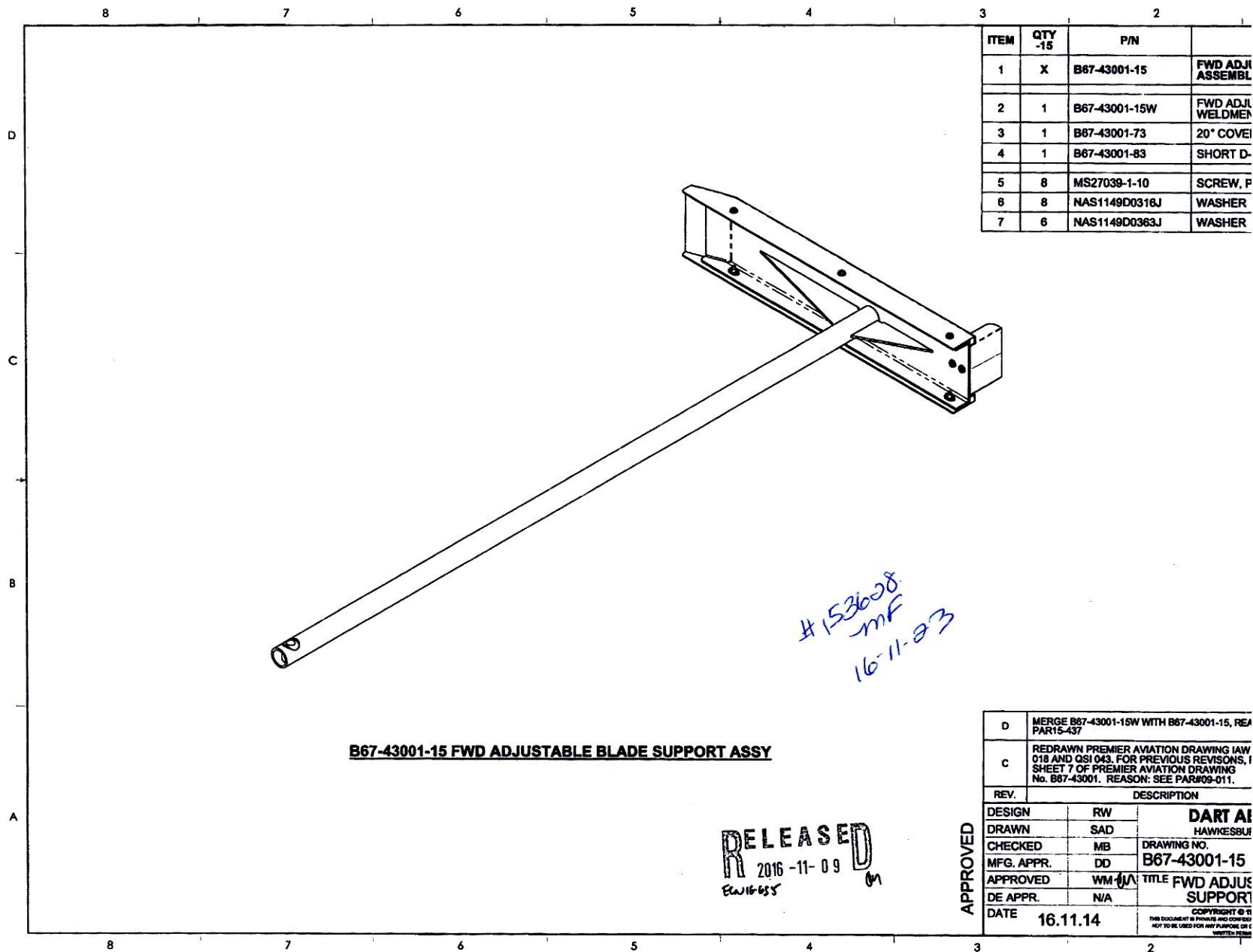


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Root Cause				FAULT CATEGORY			
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐
Past Expiry Date ☐	☐	Manufacturing Process	☐	OTHER : _____			
Misidentified ☐	☐	Past Due	☐				



DQA: _____ Date: _____

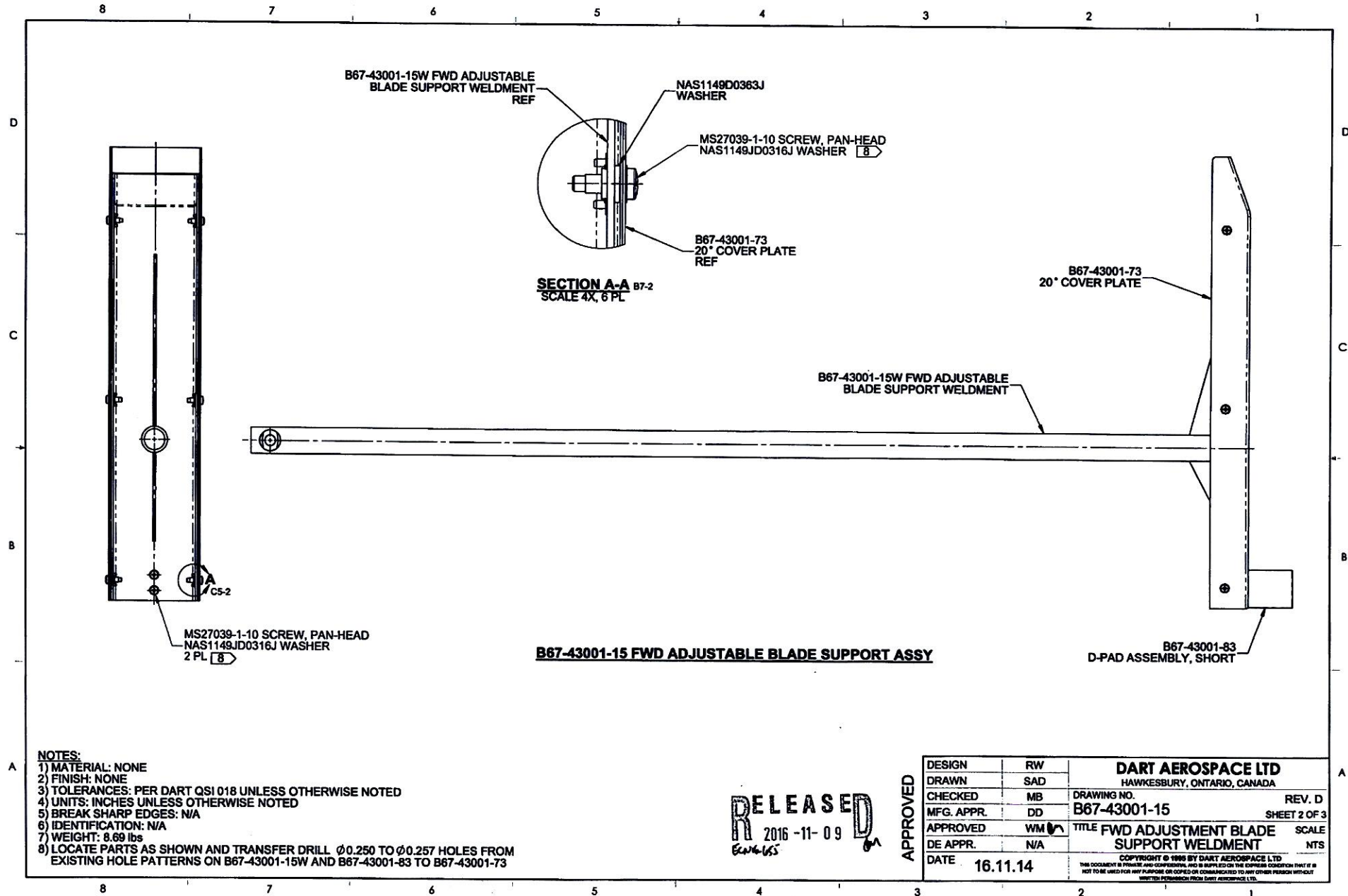


WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					



DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



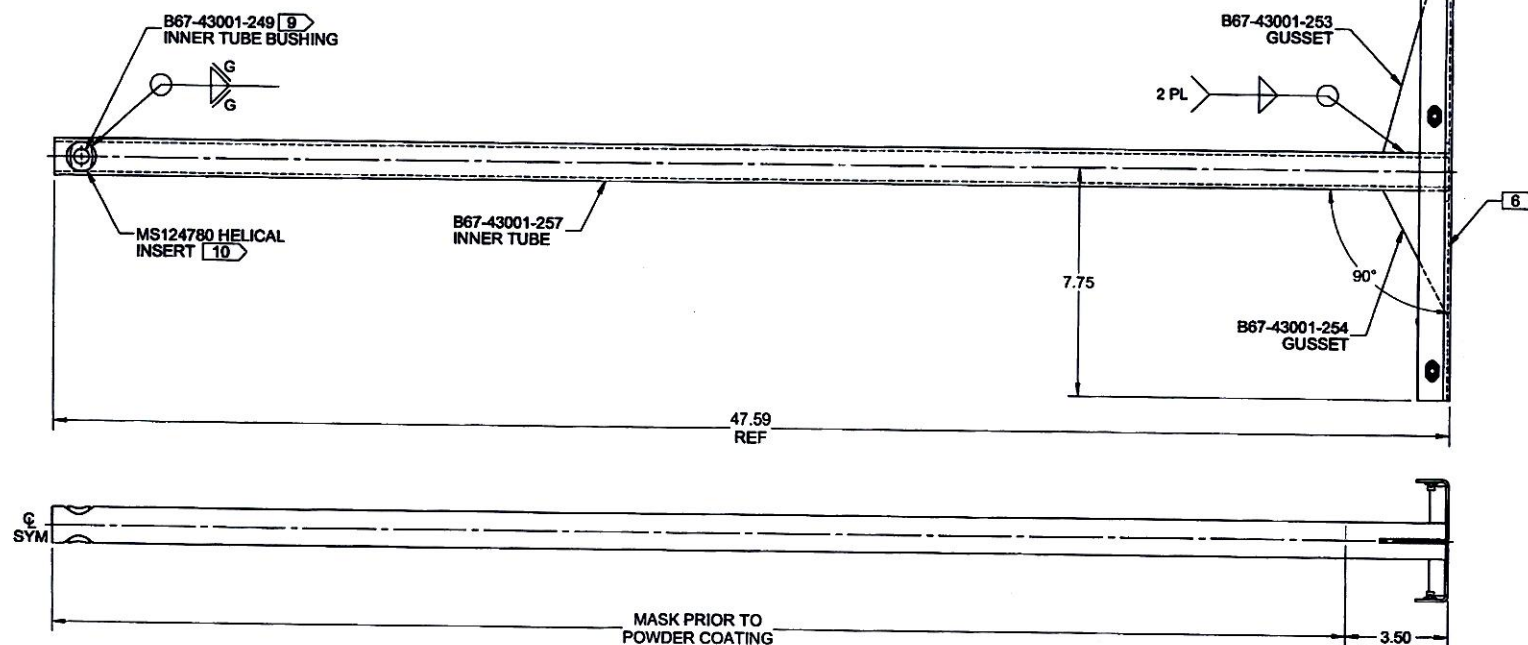
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐		No Re-verification ☐		Pressure/Forced ☐		Temperature/Cure ☐	
Design ☐		Operator ☐		Bending ☐		Set-up ☐	
Doc/Data ☐		Offset/Setup ☐		Centre Not Concentric ☐		BOM/Route ☐	
Equip/Tooling ☐		Supplier ☐		Cracks ☐		Broken/Damage/Defect ☐	
Handling/Pre ☐		Training ☐		Crimp/Kink/Ripple/Wave ☐		Inspection Incomplete/Unqualified ☐	
Material ☐		Use for Testing ☐		Cuffs ☐		Contamination ☐	
Internal Transport ☐		Poor Information ☐		Crushing ☐		Countersink ☐	
Tribal Knowledge ☐		Rushing ☐		Heat Treat ☐		Cut Too Short ☐	
LOA ☐		Product Improvement ☐		Wave/Twist in Tube ☐		Instructions Incomplete/Unclear ☐	
Substation ☐		Process Improvement ☐		Marks/Chatter ☐		Drill Holes ☐	
Past Expiry Date ☐		Manufacturing Process ☐		OTHER : _____			
Misidentified ☐		Past Due ☐					

ITEM	QTY	P/N	DESCRIPTION
1	X	B67-43001-15W	FWD ADJUSTABLE SUPPORT WELDMENT
2	1	B67-43001-71	20-DEGREE BLADE SUPPORT ASSY
3	1	B67-43001-249	INNER TUBE BUSHING
4	1	B67-43001-253	GUSSET
5	1	B67-43001-254	GUSSET
6	1	B67-43001-257	INNER TUBE
7	1	MS124780	HELICAL INSERT



B67-43001-15W FWD ADJUSTABLE BLADE SUPPORT WELDMENT

NOTES:

- 1) MATERIAL: NONE
- 2) FINISH: POWDER COAT "GREEN SANDTEX" (4.3.5.8) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "B67-43001-15W" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 3.35 lbs
- 8) WELDING: PER QSI 004
- 9) GRIND B67-43001-249 BUSHING AND WELD TO CONTOUR OF TUBE IN ACCORDANCE WITH NOTE 8
- 10) INSTALL HELICAL INSERT PER MS33537

RELEASED
2016-11-09

APPROVED

DESIGN	RW	DART AEROSPACE LTD	
DRAWN	SAD	HAWKESBURY, ONTARIO, CANADA	
CHECKED	MB	DRAWING NO.	REV. D
MFG. APPR.	DD	B67-43001-15	SHEET 3 OF 3
APPROVED	WM	TITLE	SCALE
DE APPR.	N/A	FWD ADJUSTMENT BLADE SUPPORT WELDMENT	NTS
DATE	16.11.14	COPYRIGHT © 1996 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
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Misidentified ☐	Past Due ☐																																																																